

AMENDMENTS TO THE ABSTRACT

Replace the Abstract with:

Summary Abstract

The invention is directed to a method for altering the ion conductivity of a membrane. The method comprises inserting a biological photoreceptor into the membrane. The biological photoreceptor is configured to act as a light-controlled ion channel. Use of a biological photoreceptor as light-controlled ion channel for the alteration of the ion conductivity of a membrane by means of light. The photoreceptor used comprises an apoprotein and a light-sensitive polyene covalently bound to the apoprotein, said wherein the polyene interacting interacts with the apoprotein and functioning functions as a light-sensitive gate.